

woodland, 19 km south-west of the Anna Plains turnoff; and a male in flowering *M. acacioides* on the northern edge of Roebuck Plains, Great Northern Highway.

#### *Sphecotheres viridis* **Figbird**

There are few records of this species in the Kimberley. We saw a male in riverine cadjeputs and a pair in broad-leaved scrub in a sandstone gully near the upper Drysdale, 18 km north of Mt Lacy.

#### *Artamus superciliosus* **White-browed Woodswallow**

Several were seen and a pair was collected in flowering, low mallee, 10 km east of the Landrigan Creek crossing on the Halls Creek-Fitzroy Crossing Highway on 23 April. They were associated with a loose flock of over 100 Masked Woodswallows (*A. personatus*). This species is a rare visitor to the Kimberley and had previously been seen only in West Kimberley.

#### *Cracticus torquatus* **Grey Butcherbird**

We had a brief view of a bird we felt sure was this species in tall wattles and eucalypts, 47 km east along the Gibb River Road from the Derby turnoff on 26 February. This species was positively seen in dense woodland or forest at the following places: extreme south-west of the Wyndham Range; King Leopold Ranges, 20 km east of Napier Downs homestead; Galvans Gorge; Manning Gorge; and the Saw Ranges about Dunham Pilot Dam.

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### AN EXAMPLE OF EDGE EFFECT ON ANTS IN THE WESTERN AUSTRALIAN WHEATBELT

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In April 1983 I accompanied members of the Intermediate Section of the Western Australian Naturalists' Club on an excursion to East Ballidu to study the edge effect between farmland and bushland. 'Edge effect' being as defined in Lincoln et al. (1982) as follows:

'edge effect: The effect exerted by adjoining communities on the population structure within the marginal zone (ecotone), which often contains a greater number of species and higher population densities of some species than either adjoining community.'

The edge chosen was the boundary between Ninghan Location 14906, a reserve for water and flora and fauna; and Ninghan Location 1519, a sheep and wheat farm. This boundary ran north and south. In the area chosen the soil was a naturally infertile loam over laterite. The largely undisturbed vegetation on the reserve was *Allocasuarina* scrub approximately 1.5 metres high, occasional *Acacia* species to 2.0 metres high, and sparse ground herbage. The farmland had not been cultivated for about eighteen months and carried a variety of exotic volunteer annuals. Along the boundary fence there was a strip of land approximately four metres wide which had been cleared but not further cultivated and here volunteer *Acacias* to 2.5 metres high were spaced about three metres apart.

Three transects 100 metres long were marked out parallel with the boundary. Transect (A) was 150 metres inside the reserve, transect (B) was along the boundary fence and transect (C) was 150 metres inside the cultivated paddock. The same person then walked along each transect in turn collecting ants with a cotton swab soaked in methylated spirits and placing them in a marked bottle for each transect. On visual estimate (no weights were taken) the biomass of ants along the boundary zone (B) was ten times that of the virgin zone (A) and twenty times that of the cultivated zone (C). On our return to Perth the bottles were handed to Dr Terry Houston of the Western Australian Museum who kindly identified the number of species in each bottle. The results were as follows:

- Bottle A: species 1 *Iridomyrmex* sp. (Dolichoderinae)
- Bottle B: species 2 *Pheidole* group (Myrmecinae)  
species 3 *Pheidole* group (Myrmeciane)  
species 4 *Iridomyrmex purpureus* species-group  
species 5 *Rhytidoponera* (Poneriana)
- Bottle C: species 2

Thus there were four times as many species and a much greater biomass of ants along the edge effect zone than in either the virgin land or the cultivated land. One species of ant had been eliminated from the edge effect zone, presumably by competition from other ant species which were better adapted to the new conditions.

The greater biomass of ants along the boundary was presumably due to the greater variety of foraging sources and the availability for foraging of the almost unpopulated cultivated land. From observation this situation is common among birds in the wheatbelt, with the edge effect extending for up to several kilometres and thus encompassing the whole of most nature reserves. Study of this phenomenon may help in conserving rare species and controlling pest species.

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